

LISTING OF CLAIMS:

1. (Previously Presented) A surgical tool capable of transmitting torsional ultrasonic vibrations, said surgical tool comprising longitudinally extending guide means defining a longitudinal axis of said tool, a first jaw member at a distal end thereof, a longitudinally extending carrier means rotatable about said guide means, a second jaw member mounted pivotably to a distal end of said carrier means, and outer shroud means including operating means for said second jaw member whereby rotation of said carrier means acts on the operating means to cause pivoting of said second jaw member into and out of operative relationship with said first jaw member.

2. (Previously Presented) A tool as claimed in claim 1, wherein the surgical tool is an ultrasonic surgical tool, and the elongate guide means is a waveguide for propagating one of torsional ultrasonic vibrations and longitudinal ultrasonic vibrations, operatively connected at a proximal end to means to generate ultrasonic vibrations.

3. (Original) A tool as claimed in claim 2, wherein the first jaw member constitutes ultrasonically vibratable cutting and/or coagulating means, and the second jaw member is adapted to hold tissue to be treated against said cutting and/or coagulating means.

4. (Previously Presented) A tool as claimed in claim 1 wherein said carrier means is a carrier tube, comprising a tubular member concentrically surrounding said guide means.

5. (Original) A tool as claimed in claim 4, wherein the carrier tube is rotatable within a tubular space defined by an inner wall of the outer shroud tube and an outer surface of the inner guide member.

6. (Original) A tool as claimed in claim 1, wherein the shroud means is mounted non-rotatably to a handset of the tool.

7. (Original) A tool as claimed in claim 6, wherein the shroud means is detachably mounted to said handset, as is the carrier means.

8. (Original) A tool as claimed in claim 1, wherein the operating means comprises a guide lobe extending forwardly from a distal end of the shroud means and disposed to bear on an opposing surface of the second jaw member.

9. (Original) A tool as claimed in claim 8, wherein the operating means comprises two cam lobes extending proximally towards the distal end of the guide means.

10. (Original) A tool as claimed in claim 8, wherein a proximally facing surface of the second jaw member comprises an intermediate curved zone disposed between two protrusions, so disposed that by relative rotational movement the action of one said protrusion on a guide lobe of the operating means acts to pivot the second jaw member into operative relationship with the first jaw member, and the action of the other said protrusion on the guide

lobe acts to pivot the second jaw member away from said operative relationship.

11. (Previously Presented) A tool as claimed in claim 10, wherein the protrusions and the curved zone therebetween cooperate with the guide lobe to move the second jaw member between open and closed dispositions by a rotational movement of the carrier means to which said second jaw member is mounted of between 20 and 60 degrees.

12. (Original) A tool as claimed in claim 10, wherein the curved zone is so shaped that the second jaw member is caused to pivot comparatively slowly over a part of its travel and comparatively rapidly over another part of its travel.

13. (Original) A tool as claimed in claim 12, wherein the comparatively slow part of the travel of the second jaw member defines a coagulation step, and the comparatively rapid part of said travel defines a cutting step.

14. (Original) A tool as claimed in claim 8, wherein the operating means is provided with more than one guide lobe, preferably an odd number thereof.

15. (Original) A tool as claimed in claim 14, wherein the second jaw member has only a single protrusion, guided by two said lobes and a curved interlobal zone therebetween.

16. (Original) A tool as claimed in claim 1, wherein the carrier means is operatively connected to a manually operatable control means, which control means includes means to ensure substantially continuous contact between the guide lobe or lobes and the proximal face of the second jaw member, whatever their rotational disposition.

17. (Original) A tool as claimed in claim 16, wherein the carrier means may be biased in a proximal direction by a resilient biasing means, such as a spring means or a member of resilient material, or cam means adapted to urge the carrier means in a proximal direction.

18. (Currently Amended) A surgical tool capable of transmitting torsional ultrasonic vibrations, said surgical tool, ~~said surgical tool~~ comprising a longitudinally extending first guide member having a first jaw member at a distal end thereof, a second jaw member movable into and out of operative relationship with the first jaw member and carrier means and operating means for the second jaw member so adapted that the second jaw member follows a three dimensional path when so moved.

19. (Original) A tool as claimed in claim 18, wherein the movement of the second jaw member comprises substantially simultaneous pivoting movement about a first axis and rotation of said first axis about a second axis substantially orthogonal thereto.

20. (Previously Presented) A tool as claimed in claim 11, wherein the second jaw member is mounted between 25 and 45 degrees.

21. (Previously Presented) A method for severing and coagulating tissue using torsional ultrasonic vibrations comprising:

providing a waveguide having a first jaw member at a distal end thereof and capable of transmitting torsional ultrasonic vibrations to the distal end thereof;

providing a second jaw member movable into and out of operative relationship with the first jaw member;

clamping tissue between first and second jaw members of an ultrasonic tool capable of transmitting torsional ultrasonic vibrations to the distal end thereof;

causing torsional ultrasonic vibrations to be transmitted to the first jaw member; and

applying pressure to press the tissue between the first and second jaw members for ultrasonically severing and coagulating the tissue.

22. (Previously Presented) A method as claimed in claim 21, wherein the first jaw member constitutes ultrasonically vibratable cutting and/or coagulating means, and the second jaw member is adapted to hold the tissue against said cutting and/or coagulating means.